



Severe Acute Respiratory Syndrome (SARS)

June 2003



Objectives for SARS Presentation



- ♠ Summarize Health Affairs, Special Message from the Assistant Secretary of Defense for Health Affairs: Severe Acute Respiratory Syndrome (SARS), 25 Jun 03
 - Describe SARS diagnosis and management
 - Describe DoD SARS activities
 - List SARS-related web sites

SARS Background & General Information



- ♠ Late 2000 through mid 2003
 - SARS infected more than 8,400 people in 29 countries
 - Over 800 deaths
 - 10% case fatality rate, range 0 to >50%
- ♠ Unrecognized corona virus in patients with SARS is believed to be the cause of the disease
- ♠ Hospitals served as settings for amplification of transmission, leading to community spread

Symptoms of SARS



- ♠ Mild respiratory symptoms within 2-7 days
- ♠ Fever of greater than 100.4 F [>38.0 C]
- ♠ Dry cough
- ♠ Trouble breathing
- ♠ Headache
- ♠ General malaise

What Causes SARS?



- ♠ SARS is caused by a previously unrecognized coronavirus, called SARS-associated coronavirus (SARS-CoV).
- ♠ It is possible that other infectious agents might have a role in some cases of SARS.

How Is SARS Spread?



- ♠ Close person-to-person contact
- ♠ Direct contact with infectious material, e.g. respiratory secretions from persons with SARS
- ♠ Touching the skin of other people or objects contaminated with infectious droplets
- ♠ Possible airborne transmission
- ♠ Possible that SARS can be spread more broadly through the air or by other means (currently being investigated)

Who Is At Risk for SARS?



- ♠ Travelers returning to US from parts of the world affected by SARS
- ♠ Close contact with an ill person with SARS symptoms
- ♠ Healthcare workers with direct contact with SARS patients

When to Seek Medical Help?



- ♠ Early warning signs and belief that you have come in contact with someone with SARS or SARS symptoms
- ♠ Recent travel in a SARS-affected country within the last 10 days of onset of symptoms, e.g.
 - Elevated temperature
 - Cough
 - Trouble breathing
 - Headache
 - General malaise

Can SARS Be Cured?



- ♠ No specific treatment recommendations can be made at this time
- ♠ Empiric therapy
- ♠ Treatment of choice depends on severity of illness
- ♠ Consultation with infectious disease is recommended

SARS Surveillance



- ♠ Rapid identification of cases and close contacts
- ♠ Prompt identification by healthcare providers and hospitals
- ♠ Emphasis on identifying exposures in health care settings and reporting cases meeting criteria
- ♠ Screening criteria and clinical management recommendations will be “dynamic” and modified dependant on SARS activity in the world and locally

Clinical Work-Up



- ♠ Complete blood count (CBC) with differential
- ♠ Chest radiograph
- ♠ Pulse oximetry
- ♠ Blood cultures
- ♠ Sputum Gram's stain and culture
- ♠ Testing for viral respiratory pathogens, notably influenza A and B and respiratory syncytial virus
- ♠ Legionella and pneumococcal urinary antigen testing if radiographic evidence of pneumonia (adults only)

Laboratory Testing



- ♠ False positive test may generate anxiety and concern and increase use of public health resources
- ♠ SARS-CoV testing should be performed judiciously and preferably only in consultation with local health department or testing laboratory

Military Testing Laboratories



- ♠ Air Force Institute for Operational Health (AFIOH)
- ♠ Naval Health Research Center (NHRC)
- ♠ Armed Forces Institute of Pathology (AFIP)
- ♠ U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)

Early Diagnosis of SARS-CoV Disease



- ♠ No specific clinical or laboratory findings can distinguish with certainty SARS-CoV from other respiratory illnesses rapidly enough for informed management decisions
- ♠ Early clinical recognition of SARS-CoV disease still relies on a combination of clinical and epidemiologic features
 - Has a history of recent travel to mainland China, Hong Kong, Taiwan
 - Healthcare worker at particular risk for SARS-CoV exposure
 - Part of a cluster of cases of atypical pneumonia without an alternative diagnosis

Early Symptoms of SARS-CoV



- ♠ Usually includes fever, chills, rigor, myalgia, and headache
- ♠ Respiratory symptoms, e.g. shortness of breath and/or dry cough
- ♠ Diarrhea, sore throat, and rhinorrhea

Reporting of Potential SARS-CoV Cases



- ♠ All persons requiring hospitalization for radiographically confirmed pneumonia who report at least one of the three risk factors for exposure to SARS-CoV
- ♠ Any cluster (two or more persons) of unexplained pneumonia, especially among healthcare workers
- ♠ Any positive SARS-CoV test results

SARS Isolation or Quarantine



- ♠ Restriction of movement
 - In hospitals when necessary
 - Often voluntary, but may mandatory
 - Commonly used public health practices
 - Clinical monitoring is key to contact management
- ♠ Restriction may be active or passive
- ♠ Quarantine may have negative connotations, but it works
- ♠ Balancing individual freedom against common good

Other Agencies Collaborating on SARS



- ♠ Department of Health and Human Services (DHHS)
- ♠ Centers for Disease Control and Prevention
- ♠ Department of State
- ♠ Other agencies where the latest information and control strategies are discussed
- ♠ CDC Emergency Response Center

How Does DoD Track or Evaluate Potential Cases of SARS?



- ♠ DoD Global Emerging Infections System (GEIS)
 - Monitoring respiratory disease among DoD personnel worldwide
- ♠ GEIS laboratories
 - Collecting specimens from respiratory illness cases worldwide

What has DoD Done to Alert Clinicians About SARS?



- ♠ Health Affairs issued a SARS medical alert to DoD medical commanders and clinicians
- ♠ Health Affairs provided a SARS-medical advisory to Service Secretaries
- ♠ The advisory alerted the Services to the operational and medical risk from SARS

Is DoD Doing Research on SARS?



- ♠ US Army Medical Research Institute of Infectious Diseases (USAMRIID)
 - Working with CDC and NIH in testing antiviral drugs
 - Working with DoD-GEIS on validation of SARS diagnostic tests
- ♠ DoD Global Emerging Infections System (DoD-GEIS) laboratories
 - Working with USAMRIID on validation of SARS diagnostic tests

Military SARS Reporting



- ♠ Air Force Institute for Operational Health, episervices@brooks.af.mil, DSN 240-3471, commercial 210-532-3471
- ♠ US Army Office of the Surgeon General (OTSG), Paula.Underwood@otsg.amedd.army.mil, 703-681-3160
- ♠ Coast Guard, CG Commandant Health and Safety Directorate, Operational Medicine Division, sludwig@comdt.uscg.mil
- ♠ Navy Environmental Health Center, CDR Mark Malakooti, malakootim@nehc.med.navy.mil, 757-953-0700, DSN 377-0700, after hours 757-621-1967

Military Sources for Additional SARS Information



- ♠ DoD Global Emerging Infections System
<http://www.geis.ha.osd.mil/GEIS/IDTopics/SARSMenu.asp>
- ♠ DoD Deployment Health Clinical Center
<http://www.pdhealth.mil>
- ♠ US Army Center for Health Promotion and Preventive Medicine (USACHPPM) <http://chppm-www.apgea.army.mil/news/sars.asp>
- ♠ Veterans Administration (VA)
<http://www.publichealth.va.gov/sars>

Civilian Sources for Additional SARS Information



- ♠ Centers for Disease Control and Prevention (CDC) <http://www.cdc.gov/ncidod/sars>
- ♠ Food and Drug Administration (FDA) <http://www.fda.gov/oc/opacom/hottopics/sars>
- ♠ National Institute for Occupational Safety and Health (NIOSH) <http://www.cdc.gov/niosh/topics/SARS>
- ♠ Occupational Safety and Health Administration (OSHA) <http://www.osha.gov/dep/sars>
- ♠ World Health Organization (WHO) <http://www.who.int/csr/sars/en>